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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/710,646

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11/22/2006

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EXAMINER

BRUCKART, BENJAMIN R

ART UNIT

PAPER NUMBER

2155

DATE MAILED: 11/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/710,646	Applicant(s) FAKHOURI ET AL.	
	Examiner Benjamin R. Bruckart	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 21-26 are pending in this Office Action.

Claims 21-22, 25-26 are amended.

Response to Arguments

Applicant's arguments filed in the amendment filed 8/30/06, are not persuasive. The reasons are set forth below.

Claim Objections

Claims 21, 25, and 26 are objected to because of the following informalities: "building a globally optimal configurations" is bad English and contradicts plurality of one (a) with many (configurations). Appropriate correction is required.

Applicant's invention as claimed:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21-24, 25 and 26 are rejected under 102(e) as being anticipated by U.S. Patent No. 6,178,529 by Short et al.

Regarding claim 21, a method of managing a cluster of networked resources using rule-based constraints in a scalable clustering environment (Short: col. 5, lines 46- col. 6, line 9; resources have dependencies and are managed), the method comprising the steps of:

building a globally optimal configurations of said cluster of resources (Short: col. 5, lines 46- col. 6, line 9; col. 7, lines 38-54; Short teaches storing configuration data by logging into a database),

bringing said cluster of resources on-line in a systematic manner (Short: col. 5, lines 46-53; startup/initialization; col. 6, lines 46-65), given a set of resources, resource groups, current states of said resources and resource groups, dependences, preferences, constraints, events, and policies, (Short: col. 5, lines 23-53),

determining dynamic dependencies of and configuration information about said cluster of resources, including determining said dependencies and configuration information (i) at cluster initialization (Short: col. 5, lines 46-53; startup/initialization; col. 6, lines 46-65) and (ii) dynamically during cluster operation (Short: col. 7, lines 13-53), supporting startup and shutdown of said cluster of resources according to current policies, and system events (Short: col. 5, lines 46-53; startup/restart/failover),

separating the said dependencies, constraints, events, and policies into (i) a rules and objectives group (Short: col. 5, lines 46- col. 6, line 9) and (ii) a dynamically changing cluster events and policies group (Short: col. 6, lines 28-45), and

separating the networked resources, resource groups, and cluster configurations into a first static group (Short: Fig. 3; tags 70-100; the bubble denotes network resources that are static; cluster service 70) and a second dynamically changing group (Short: col. 7, lines 54-col. 8, line 27; Fig. 3; Tags 62-63; resources) and

taking a snapshot of the said first and second groups only when needed to build the said optimal configuration (Short: col. 5, lines 22-36).

Claims 25 and 26 are rejected under the same grounds of above as being substantially similar.

Regarding claim 22, a method according to Claim 21, comprising the further steps of: continuously monitoring cluster-wide events and comparing the current cluster state with a desired state (Short: col. 5, lines 23-40), and whenever there is a discrepancy between said current and desired states, realigning the cluster resources, including the step of issuing commands to the cluster resources to bring about the realigning (Short: col. 5, lines 23-45);

providing a group of cluster services, including:

- i) a persistent cluster registry to store and retrieve the configuration of the cluster resources (Short: col. 5, lines 23-45; database manager),
- ii) topology services for detecting node and communication adapter failures (Short: col. 5, line 66- col. 6, line 10; resource monitor),
- iii) messaging for selected communications between a central resource and all other resources (Short: col. 4, lines 55- col. 5, line 10), and
- iv) a group services facility for electing one of the resources as the central resource at cluster initialization and whenever an existing central resource is unable to provide the services thereof (Short: col. 4, lines 32-53; col. 6, line 66- col. 7, line 12),

delivering events to a coordinator, said coordinator combining said events with said rules and objectives to arrive at a response to said events (Short: col. 6, lines 10-20; col. 5, lines 46-65; the coordinator=resource manager);

translating the response into commands to the resources each of the commands containing all the state needed for execution of the command by a manager of one of the resources, including the step of issuing the commands in a partial order given by said dependencies (Short: col. 5, lines 46-65); and

not sending out a new command until the leader resource is aware of a positive outcome of the commands that the execution of said new command depends on (Short: col. 5, lines 11-22; col. 7, lines 38-53; membership verification).

Regarding claim 23, a method according to Claim 22, wherein:

said coordinator ensures that globally-optimal solutions get deployed in the cluster in response to events in the cluster (Short: col. 5, lines 23- col. 6, line 10); and

all events and command feedback are directed to said coordinator (Short: col. 5, lines 66- col. 6, line 10).

Regarding claim 24, a method according to Claim 21, comprising the further steps of:

providing an optimizer module for computing a globally optimal solution based on said constraints and to current state of the cluster (Short: col. 5, lines 23-65);

using the optimizer for re-computing the globally optimal solution whenever an objective value of a deployed solution is below a certain value as compared to a proposed solution, including the step of feeding back to the optimizer an artificially generated event that forces the optimizer to re-compute the global solution (Short: col. 6, lines 28-45; col. 7, lines 55- col. 8, line 11);

providing the optimizer with a snapshot of the current state of the cluster (Short: col. 5, lines 23-45);

wherein the step of using the optimizer for re-computing the globally optimal solution includes the step of said optimizer, given said snapshot, proposing an approximately optimal cluster configuration that takes into account said current state of the cluster and long-term objectives defined for the cluster (Short: col. 5, lines 23- col. 6, line 10; desired configuration).

REMARKS

Applicant has made vast improvements to the claims readability and language and presented arguments against the Short reference.

The Applicant Argues:

The Short reference does not teach “separating” the network resources, resource groups, and cluster configurations into a first static group and a second dynamically changing group.

In response, the examiner respectfully submits:

The Short reference teaches two groups of resources denoted most clearly in Figure 3. Figure 3 as detailed in the Short specification starting col. 4, line 55 teaches a cluster service (tag

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70) that controls and manages the nodes of the cluster. Tag 60 denotes many of the resources, which have shown dependencies (col. 5, lines 46- col. 6, line 9). Short teaches the dynamically changing cluster events and policies group as the membership and status as a static resource that manages dependencies of the dynamic resources (Short: col. 5, lines 10-22). Applicant presents arguments that are not clearly defined in the claims such as the dynamic part (the events) distinguished from the other parts (the rules) [assuming the other parts are the static parts]. Applicant argues the first group captures static or occasionally changing resources such a type and quality of the supporting services. However type, quality, or services are not present in the claim language. There is also a clear contradiction in the arguments, static is defined as unchanging; the first group is also argued as “occasionally changing” which contradicts static and makes it part of the dynamically changing group. These claims still require some clarification and further distinguishing from the art. The examiner encourages applicant to further define these separations of resources and groups because it is unclear and confusing.

Conclusion

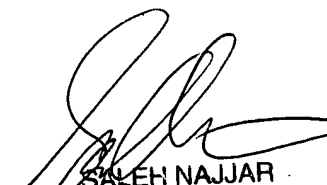
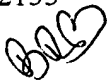
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart
Examiner
Art Unit 2155



SALEH NAJJAR
SUPERVISORY PATENT EXAMINER